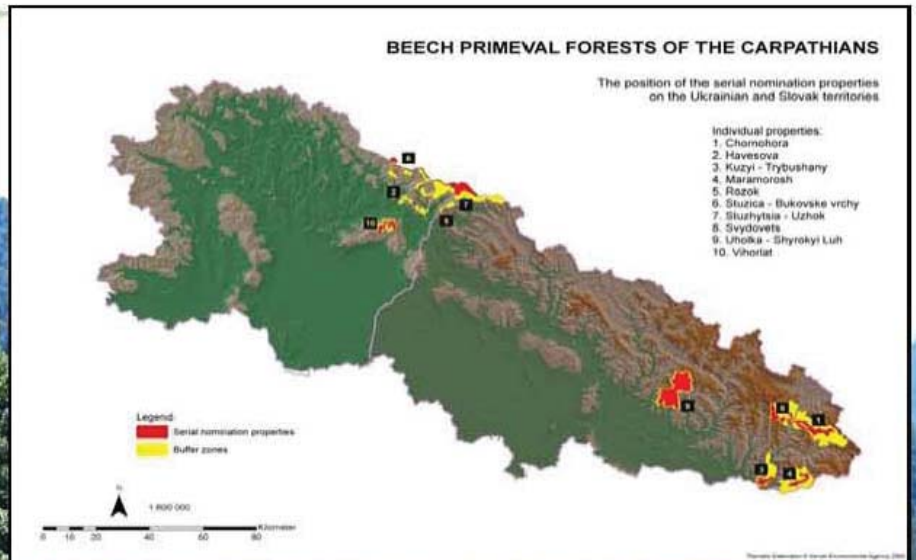
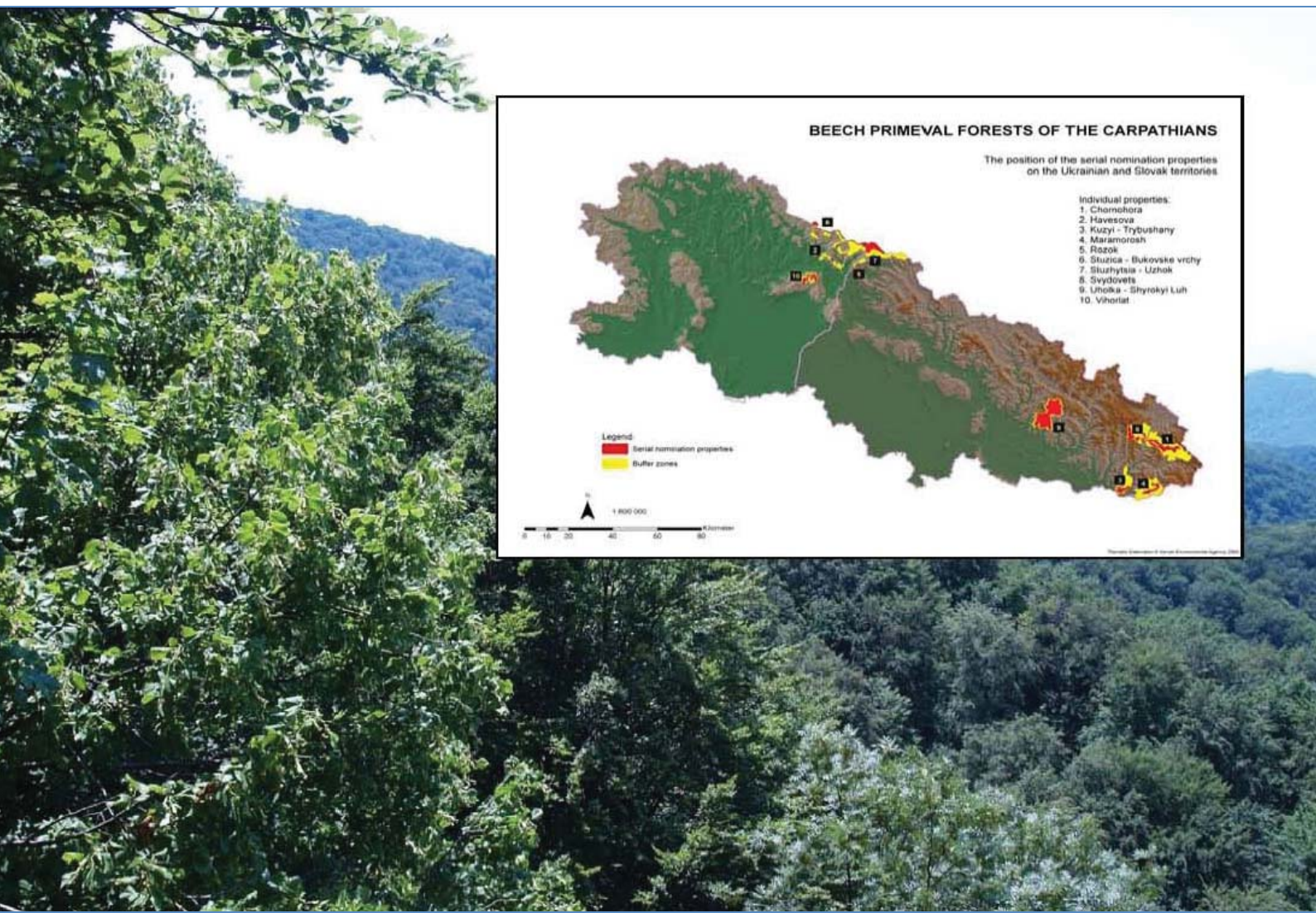




Serial natural World Heritage properties

An initial analysis of the serial natural properties on the World Heritage List



IUCN Protected Areas Programme - World Heritage Studies



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Published by: IUCN, Gland, Switzerland

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Citation: Barbara Engels, BFN, Philipp Koch, BFN, and Tim Badman IUCN, *Serial Natural World Heritage Properties*, Gland, Switzerland: IUCN. 27pp.

Cover photo: Map and picture of the serial and transnational natural World Heritage property "Primeval Beech Forests of the Carpathians" (Photo credit: Vasyl Pokynchereda, Map credit: Ukrainian and Slovak World Heritage administrations (Primeval Beech Forests of the Carpathians))

Layout by: Delwyn Dupuis

Produced by: IUCN Protected Areas Programme

Printed by: IUCN

Available from: IUCN (International Union for Conservation of Nature)
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Rue Mauverney 28
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Fax +41 22 999 0020
books@iucn.org
www.iucn.org/publications

A catalogue of IUCN publications is also available.

The text of this book is printed on paper made from wood fibre from well-managed forests certified in accordance with the rules of the Forest Stewardship Council (FSC).

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Serial Natural World Heritage Properties

This report presents an initial analysis of the present situation with regard to serial (and transnational serial) natural properties inscribed in the World Heritage List. It is primarily based on the information included in the nomination dossiers and evaluation reports for these properties, as included on the website of the UNESCO World Heritage Centre (whc.unesco.org). The document was originally prepared, in draft, as an input to the seminar on “Serial and transnational Natural World Heritage Properties” held from 26th-30th November 2008 at the International Academy for Nature Conservation, Isle of Vilm, Germany. The report is not a policy statement but rather aims to summarize the current range of serial natural World Heritage Properties and the parameters.

Introduction

Serial World Heritage properties are defined as properties with two or more distinct, geographically separated areas that together are included on the World Heritage List. A serial property may be an appropriate basis for a World Heritage nomination where the Outstanding Universal Value is revealed at the scale of more than a single area.

According to paragraph 138 of the *Operational Guidelines to the World Heritage Convention*¹, a serial nominated property may occur:

- a) *on the territory of a single State Party (serial national property); or*
- b) *within the territory of different States Parties, which need not be contiguous and is nominated with the consent of all States Parties concerned (serial transnational property)*

According to the paragraph 137 the serial properties (national and transnational): “include component parts related because they belong to:

- a) *the same historico – cultural group;*
- b) *the same type of property which is characteristic of the geographical zone;*
- c) *the same geological, geomorphological formation, the same biogeographic province, or the same ecosystem type;*

and provided it is the series as a whole – and not necessarily the individual parts of it – which are of outstanding universal value”.

Serial World Heritage properties have been discussed by the World Heritage Committee on a number of occasions. At its 32nd Session in July 2008, the World Heritage Committee discussed the issue in detail and in its decision WHC-08/32.COM/10B the Committee, *inter alia*, acknowledged the need to enhance the guidance to States Parties, Advisory Bodies and the World Heritage Centre on the policies and procedures linked to the nomination and management of serial national and transnational properties. It also requested the World Heritage Centre and the Advisory Bodies to propose amendments to the *Operational Guidelines* and more detailed guidelines, if necessary, for the nomination of serial national and transnational properties, for consideration at the 33rd session of the Committee in 2009; and it “took note that an expert workshop is proposed for November 2008 in Vilm (Germany), which will reflect on current and future practice and strategies for nomination and management of serial transnational natural World Heritage properties”.

This report, prepared by IUCN and BfN for the meeting in Vilm referred to above contributes to this request and presents an initial analysis of the current status (March 2009) of serial natural World Heritage properties.

¹ Available from: <http://whc.unesco.org/en/guidelines/>

Notes on the analysis

A number of points should be noted in relation to the analysis presented in this report:

1. Unless otherwise stated the figures quoted are from material included on the UNESCO World Heritage Centre website.
2. No attempt has been made to check systematically the information held by UNESCO in this initial evaluation. It is possible that there may be some individual errors in the data that could affect any figures cited in the analysis, and especially those that are based on small numbers of properties. The list of serial natural World Heritage properties presented in this analysis is considered to be complete based on the information reviewed, although there is a slight possibility that some properties might be missing.
3. Some of the properties included in the analysis are considered as serial properties because of minor discontinuities of the property, etc. but may not function differently to a single property.

Question 1: How many serial natural World Heritage properties are there?

Answer: Taking into account decisions up to and including the 32nd Session of the World Heritage Committee (Québec City, 2008), there are 36 serial natural World Heritage properties that have been recognized by the World Heritage Committee as being of “Outstanding Universal Value”². Of these, 34 are listed only for their natural values, and two are “mixed” properties which are listed for both natural and cultural values (Laponian Area (Sweden), Tongariro National Park (New Zealand)). These serial natural World Heritage properties are listed in Table 1.

Table 1: Serial Natural World Heritage Properties inscribed in the World Heritage List

No	Country	Region	Name
1	Australia	AP	Gondwana Rainforests of Australia
2	Australia	AP	Wet Tropics of Queensland
3	Australia	AP	Heard and McDonald Islands
4	Australia	AP	Greater Blue Mountains Area
5	Australia	AP	Australian Fossil Mammal Sites (Riversleigh / Naracoorte (Murgon))
6	Belize	LA/C	Belize Barrier Reef Reserve System
7	Brazil	LA/C	Fernando de Noronha and Atol das Rocas Reserves (2001)
8	Brazil	LA/C	Cerrado Protected Areas: Chapada dos Veadeiros and Emas National Parks
9	Brazil	LA/C	Discovery Coast Atlantic Forest Reserves
10	China	AP	Three Parallel Rivers of Yunnan Protected Areas
11	China	AP	South China Karst
12	Finland/ Sweden	EU/NA	Kvarken Archipelago / High Coast
13	Frankreich	EU/NA	Lagoons of New Caledonia: Reef Diversity and Associated Ecosystems
14	Hungary/ Slovakia	EU/NA	Caves of Aggtelek Karst and Slovak Karst
15	India	AP	Nanda Devi and Valley of Flowers National Parks
16	Indonesia	AP	Tropical Rainforests of Sumatra
17	Kazakhstan	EU/NA	Saryarka – Steppe and Lakes of Northern Kazakhstan
18	Kenya	AF	Lake Turkana National Parks
19	Madagascar	AF	Rainforests of the Atsinanana
20	Mexico	LA/C	Islands and Protected Areas of the Gulf of California
21	Mexico	LA/C	Monarch Butterfly Biosphere Reserve
22	Mongolia/ Russian Federation	EU/NA/AP	Uvs Nuur Basin
23	New Zealand	AP	Tongariro National Park
24	New Zealand	AP	New Zealand Sub-Antarctic Islands
25	Norway	EU/NA	West Norwegian Fjords – Geirangerfjord and Nærøyfjord
26	Republic of Korea	AP	Jeju Volcanic Island and Lava Tubes
27	Russian Federation	EU/NA	Volcanoes of Kamchatka
28	Russian Federation	EU/NA	Golden Mountains of Altai
29	Slovakia/Ukraine	EU/NA	Primeval Beech Forests of the Carpathians
30	South Africa	AF	Vredefort Dome
31	South Africa	AF	Cape Floral Region Protected Areas
32	Sweden	EU/NA	Laponian Area
33	Thailand	AP	Dong Phrayayen-Khao Yai Forest Complex
34	United Kingdom of Great Britain and Northern Ireland	EU/NA	Gough and Inaccessible Islands
35	United Kingdom of Great Britain and Northern Ireland	EU/NA	Dorset and East Devon Coast
36	Yemen	AR	Socotra Archipelago

Note: The properties are listed in alphabetical order by State Party.

Key to abbreviations: AF: Africa; LA/C: Latin America and the Caribbean; AP: Asia and the Pacific; EU/NA: Europe and North America; AR: Arab States

² Outstanding Universal Value is the key phrase used in the World Heritage Convention to define the threshold for inclusion of a property on the World Heritage List.

Question 2: How many serial natural properties are transnational?

Answer: Four serial properties contain areas in the territory of more than one State Party to the Convention and thus are “transnational serial properties” (see Table 2). All four properties are situated in Europe, although Uvs Nuur (Russian Federation/Mongolia) is also situated in Asia-Pacific region of UNESCO.

Table 2: Transnational serial natural World Heritage Properties

States Parties	UNESCO Region	Name of serial property
Finland/ Sweden	EU/NA	Kvarken Archipelago / High Coast
Hungary/ Slovakia	EU/NA	Caves of Aggtelek Karst and Slovak Karst
Mongolia/ Russian Federation	EU/NA/AP	Uvs Nuur Basin
Slovakia/ Ukraine	EU/NA	Primeval Beech Forests of the Carpathians

Key to abbreviations: AF: Africa; LA/C: Latin America and the Caribbean; AP: Asia and the Pacific; EU/NA: Europe and North America; AR: Arab States

Each of these four transnational serial natural properties has been inscribed within the territory of two States Parties. IUCN is aware of current projects promoting new large serial transnational nominations covering the territory of three state parties (e.g. European Beech Forests: Ukraine, Slovak Republic, Germany) or potentially even more (Mid Atlantic Ridge, The Great Rift Valley).

Question 3: How many serial natural properties have been inscribed each year?

Answer: No serial natural properties were inscribed in the early years of the World Heritage List. The first serial natural property was inscribed in 1986: the Gondwana Rainforests (Australia). From the mid-1990s onwards, there has been between one and five inscriptions of serial natural World Heritage properties in almost every year (see Figure 1). Table 3 also shows that the percentage of nominations of natural serial properties has also increased in the last 7 years. The average annual rate of inscriptions of serial natural properties on the World Heritage List since 1993 has been 2.6 properties, and the number of inscriptions is also going up annually. Table 3 and Figure 1 indicate on average a fairly steady rate of growth of serial natural properties, although there is a suggestion of an increase in rates in the last four years: the years with the highest rates of annual inscription of serial natural properties are 2005, 2007 and 2008.

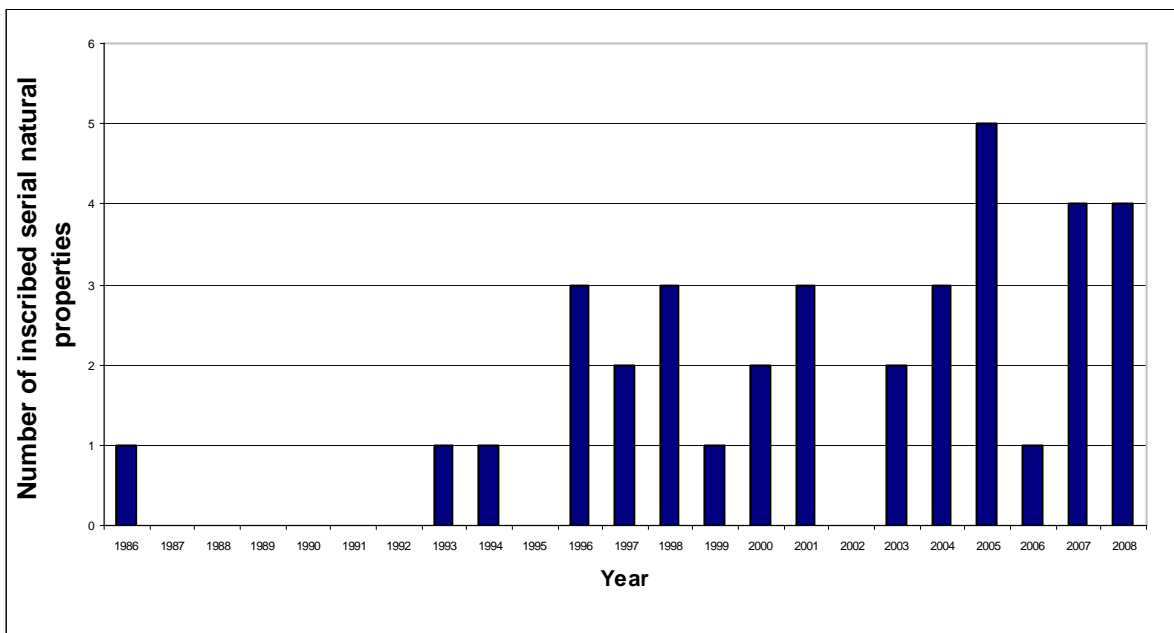


Figure 1: Inscriptions of serial natural World Heritage properties per year

Note: In cases where a serial property was created by an extension of a single property, the inscription has been counted in the year the single property became a serial one.

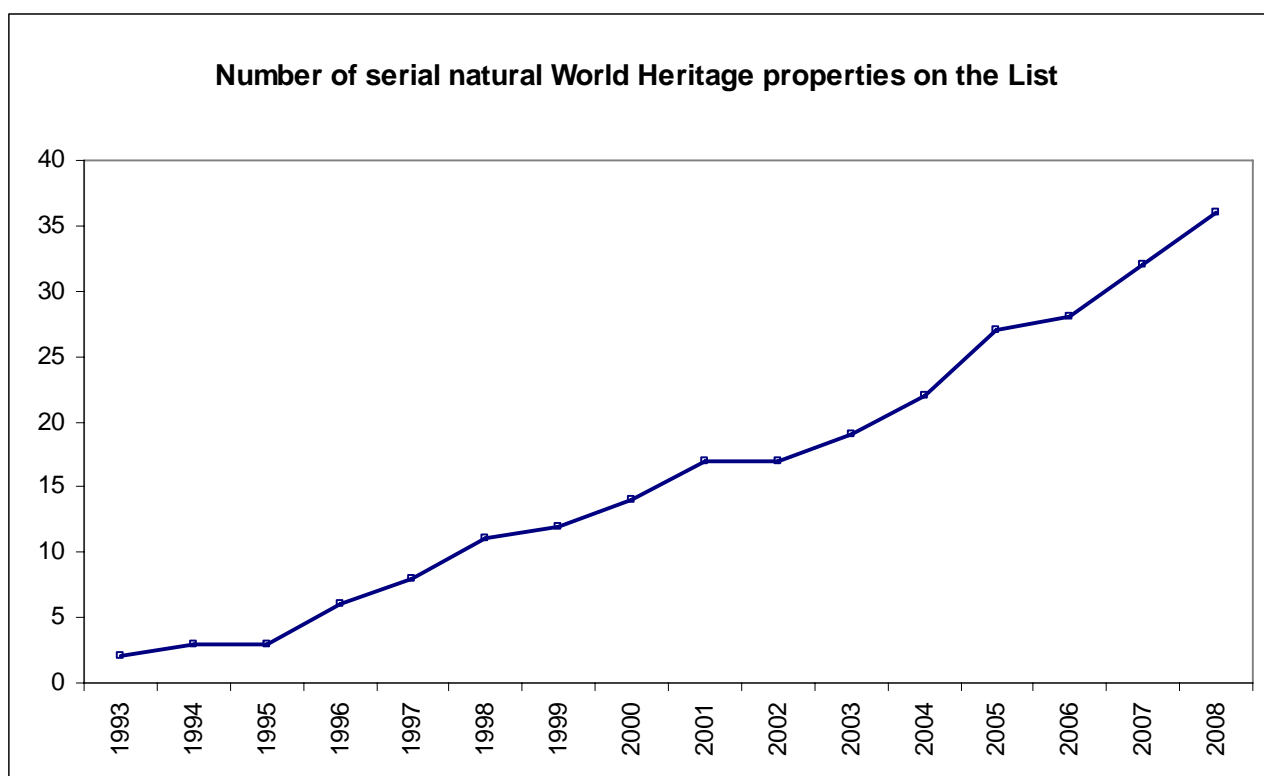
Table 3: Nominations of serial natural properties 2002-2008

Year	Number of nominated serial natural properties	Committee decisions on serial natural nominations					Total number of natural nominations *** (% serial)
		Inscribed	Not inscribed	Deferred	Referred	Withdrawn by State Party	
2002	-	-	-	-	-	-	4 (0)
2003	3	2	-	1*	-	-	8 (37.5%)
2004	6	3	-	-	-	3	15 (40%)
2005	5	5	-	-	-	-	11 (45%)
2006	5	1	-	3**	-	1	10 (50%)
2007	6	4	1	-	-	1	11 (54%)
2008	6	4	1	-	-	1	13 (46%)

* The nomination of the "Saryarka - Steppe and Lakes of Northern Kazakhstan" was deferred in 2003 and has been re-nominated and inscribed in 2008.

** One property had been nominated as a serial property (Gorgona Natural Parks and Malpelo Sanctuary/Colombia; with two component parts) but only one component (the Malpelo Flora and Fauna Sanctuary) was finally inscribed.

*** includes extensions of properties inscribed on the World Heritage List

**Figure 2: Growth in the number of serial natural World Heritage properties on the List (1993-2008)**

Note: In cases where a serial property was created by an extension of a single property, the inscription has been counted in the year the single property became a serial one

Question 4: How are serial natural World Heritage properties distributed between the different UNESCO regions?

Answer: The serial natural World Heritage properties are currently unevenly distributed in the UNESCO regions: only one property is located in the Arab States, four in Africa, six in Latin America/Caribbean, thirteen are situated in the Asia-Pacific region and eleven properties in Europe/North America (see Figure 3). One property (Uvs Nuur (Mongolia/Russian Federation)) is located partly in the Asia-Pacific region and partly in Europe/North-America.

Comparison of these numbers to the total numbers of natural World Heritage properties in the various regions suggests that the high numbers of serial natural properties in Europe/North America and Asia-Pacific correlate well with the overall number of natural World Heritage properties in these regions. With one property out of four the percentage of serial natural properties in the Arab States is comparatively high (see Table 4).

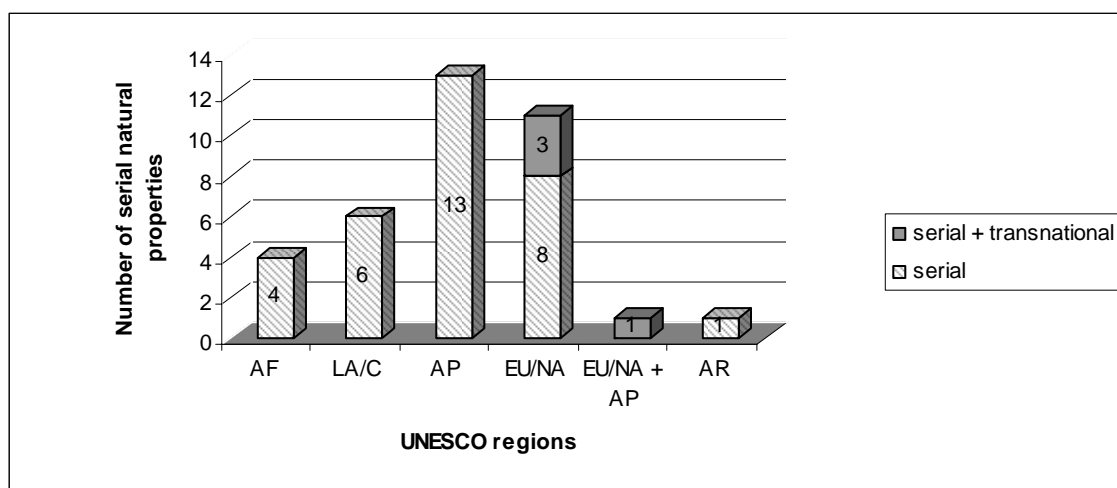


Figure 3: Distribution of serial natural World Heritage properties in the UNESCO regions

Key to abbreviations: AF: Africa; LA/C: Latin America and the Caribbean; AP: Asia and the Pacific; EU/NA: Europe and North America; AR: Arab States

Note: the property Uvs Nuur has been counted in both the figure for the AP and EU/NA regions.

Table 4: Numbers of serial natural World Heritage properties compared to total natural World Heritage properties

UNESCO Region	Serial natural	Total natural	% serial natural
AF	4	33	12.1
LA/C	6	35	17.1
AP	14	48	29.2
EU/NA	12	54	22.2
AR	1	4	25.0

Note: the property Uvs Nuur has been counted in both the figure for the AP and EU/NA regions.

Key to abbreviations: AF: Africa; LA/C: Latin America and the Caribbean; AP: Asia and the Pacific; EU/NA: Europe and North America; AR: Arab States

Question 5: Under which criteria have serial natural World Heritage properties been inscribed?

Serial natural World Heritage properties have been inscribed under all four natural criteria (vii, viii, ix, x). The overall distribution of the criteria is presented in Figure 4, with criterion (x) used most frequently. The combinations of different criteria used for inscriptions is shown in figure 5. Among the different combination of criteria, the combination (ix and x) has been used most frequently, followed by the combination (vii, ix and x).

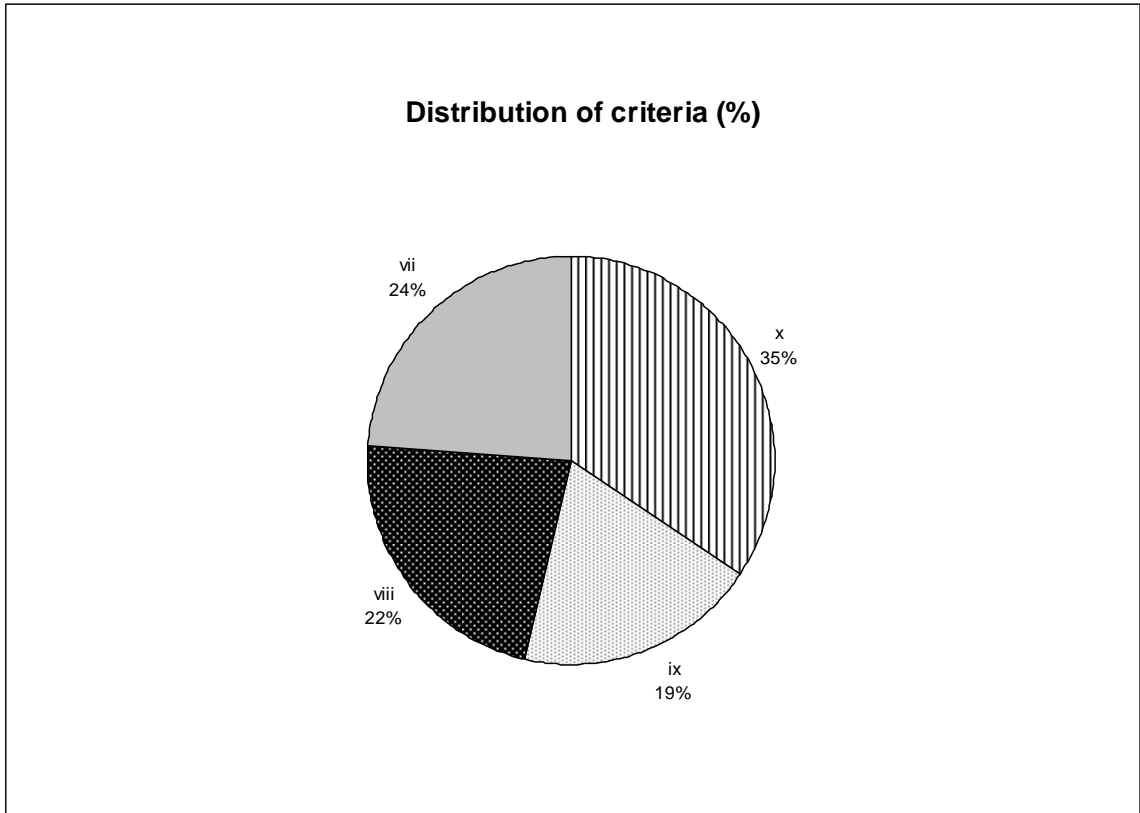


Figure 4: Frequency of use of the natural criteria for inscription of serial natural World Heritage properties.

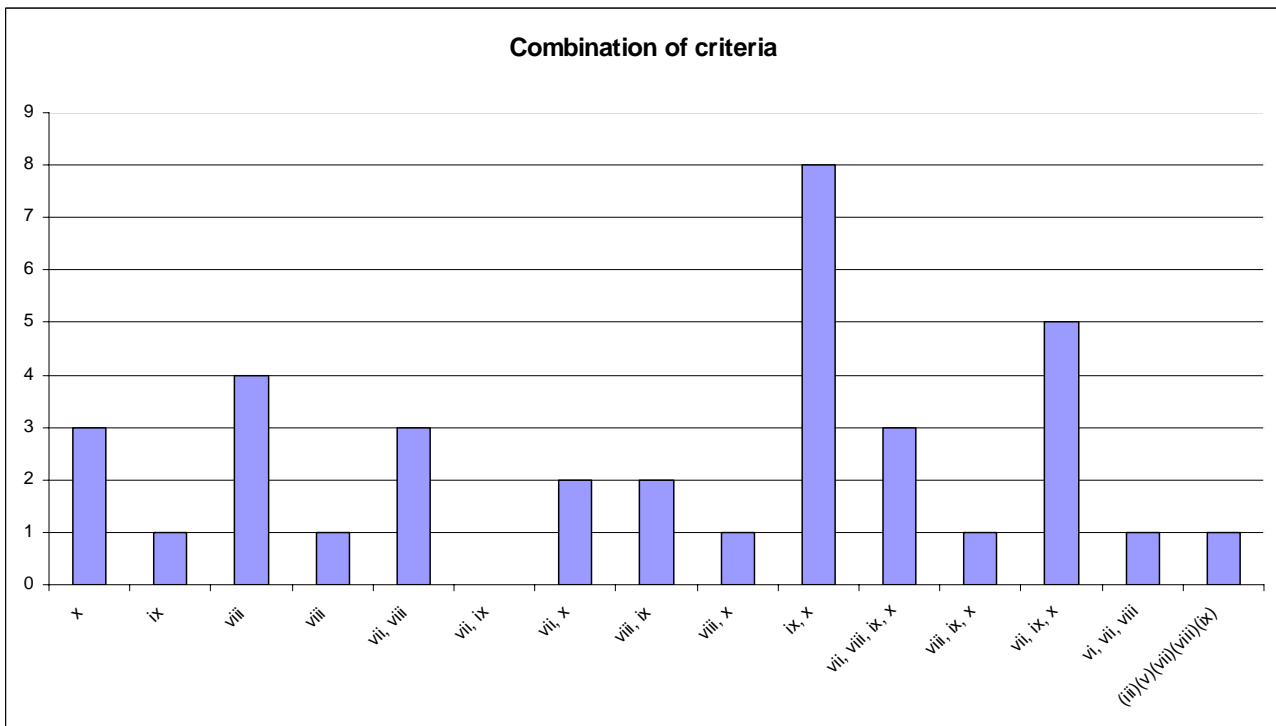


Figure 5: Combination of criteria under which serial natural World Heritage properties have been inscribed

Question 6: What ecosystem types are represented in the serial natural World Heritage properties?

Answer: At present, 24 serial natural World Heritage properties are inscribed on values related to one (or more) principal ecosystem types: forests (13), islands and marine ecosystems (8), wetlands combined with steppe (3) and inland waters or wetlands (3) (see Figure 6). The individual properties with the ecosystem types represented are listed in Table 5.

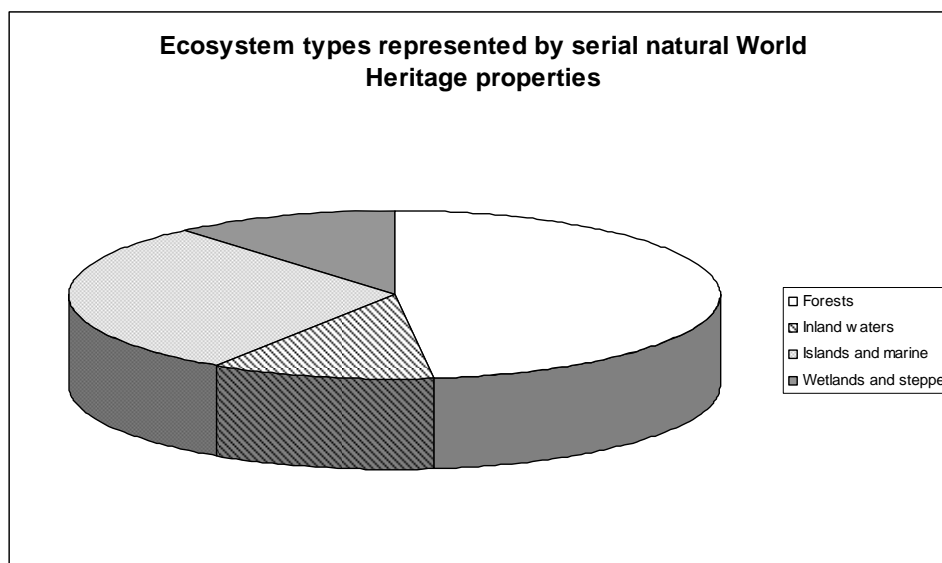


Figure 6: Principal ecosystem types represented in serial natural World Heritage properties.

Table 5: Principal ecosystem types represented in serial natural World Heritage properties

Name	Country	Region	Ecosystem Type
Gondwana Rainforests of Australia	Australia	AP	Forests
Wet Tropics of Queensland	Australia	AP	Forests
Heard and McDonald Islands	Australia	AP	Islands and Marine
Greater Blue Mountains Area	Australia	AP	Forests
Belize Barrier Reef Reserve System	Belize	LA/C	Islands and Marine
Fernando de Noronha and Atol das Rocas Reserves	Brazil	LA/C	Islands and Marine
Cerrado Protected Areas: Chapada dos Veadeiros and Emas National Parks	Brazil	LA/C	Wetlands
Discovery Coast Atlantic Forest Reserves	Brazil	LA/C	Forests
Three Parallel Rivers of Yunnan Protected Areas	China	AP	Inland waters
Lagoons of New Caledonia: Reef Diversity and Associated Ecosystems	France	EU/NA	Islands and Marine
Nanda Devi and Valley of Flowers National Parks	India	AP	Forests
Tropical Rainforests of Sumatra	Indonesia	AP	Forests
Saryarka – Steppe and Lakes of Northern Kazakhstan	Kazakhstan	EU/NA	Wetlands, Steppe
Lake Turkana National Parks	Kenya	AF	Inland waters
Rainforests of the Atsinanana	Madagascar	AF	Forests
Islands and Protected Areas of the Gulf of California	Mexico	LA/C	Islands and Marine
Monarch Butterfly Biosphere Reserve	Mexico	LA/C	Forests
Uvs Nuur Basin	Mongolia/ Russian Federation	EU/NA/ AP	Wetlands, Steppe
New Zealand Sub-Antarctic Islands	New Zealand	AP	Islands and Marine
Volkanoes of Kamtchatka	Russian Federation	EU/NA	Forests
Primeval Beech Forests of the Carpathians	Slovakia/Ukraine	EU/NA	Forests
Dong Phayayen-Khao Yai Forest Complex	Thailand	AP	Forests
Gough and Inaccessible Islands	United Kingdom	EU/NA	Islands and Marine
Socotra Archipelago	Yemen	AR	Islands and Marine

Key to abbreviations: AF: Africa; LA/C: Latin America and the Caribbean; AP: Asia and the Pacific; EU/NA: Europe and North America; AR: Arab States

Question 7: How many different component parts are included within serial natural World Heritage properties?

Answer: The number of different component parts included in serial natural World Heritage properties is shown in figure 7, and varies from 2 to 41. In the case of the Gondwana Rainforests (Australia) there are 8 clusters of components, although these include 41 smaller individual elements. The average number of components is c. 6.5 but it should be noted that the majority of properties is composed of 2 to 8 components. All 36 serial natural World Heritage properties together consist of 246 component parts.

Figure 8 shows a graph of the growth in the total number of component parts of serial natural properties and tends to suggest an approximately exponential trend in growth, with the rate of growth of the number of components being greater than that rate of growth of the number of serial natural properties.

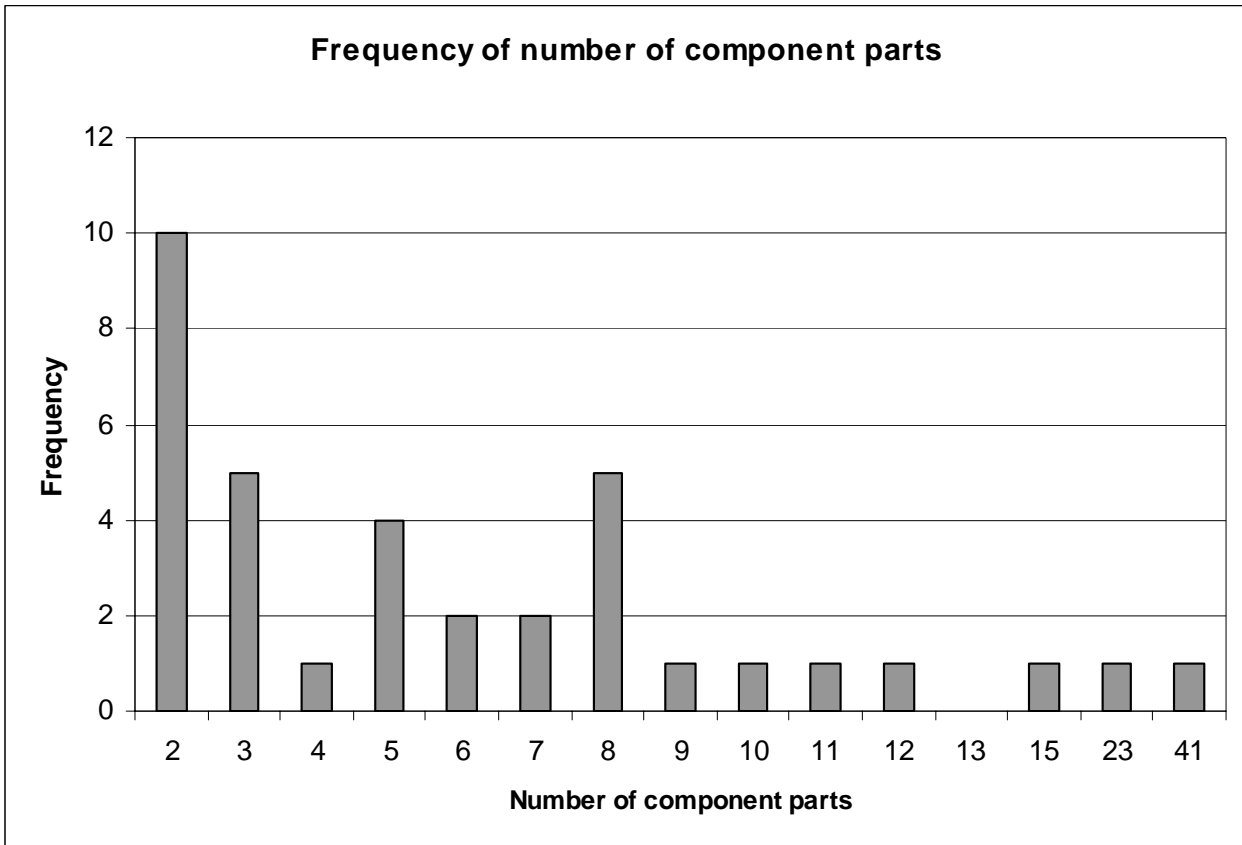


Figure 7: Number of different component parts included in serial natural World Heritage properties

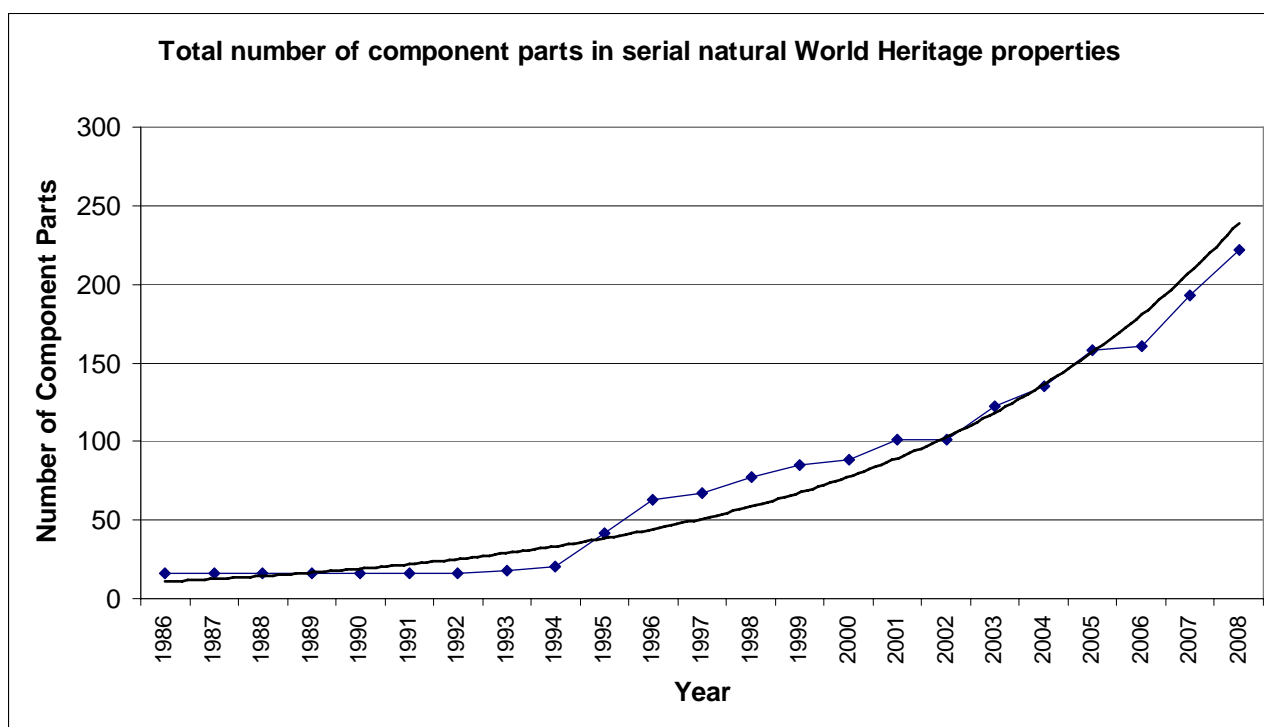


Figure 8: Growth in the number of component parts of serial natural World Heritage properties

Note: Best fit line suggests an exponential trend in growth in the number of component parts of serial natural properties

Question 8: How large are serial natural World Heritage properties?

Answer: The average size of a serial natural World Heritage property is c. 537,000 hectares (compared to the average size of all natural World Heritage Properties of c. 929,000 hectares³). The size of serial natural World Heritage properties varies from 2,550 ha to 3,830,200 ha. The distribution of serial natural World Heritage properties in different size classes is as follows:

- 1 million hectares or more: 5 properties
- 500,000 – 999,999 hectares: 7 properties
- 100,000 – 499,999 hectares: 9 properties
- 50,000 – 99,999 hectares: 5 properties
- 10,000 – 49,999 hectares: 7 properties
- Less than 10,000 hectares: 3 properties.

The largest serial natural property is Volcanoes of Kamchatka at 3,830,200 hectares; the smallest serial natural property is Dorset and East Devon Coast with 2,550 hectares.

The current range of serial natural World Heritage properties include a significant number of large protected areas. Such large areas are considered to have particular importance in relation to the extinction crisis being experienced by global biodiversity as they include large tracts of the last remaining wilderness areas of the world and areas that provide large-scale connectivity between protected and unprotected areas.

³ The average size of a natural World Heritage property is 928,925 hectares although if the Great Barrier Reef is excluded from the analysis the average size is just over 746,823 hectares (Source: IUCN World Heritage Studies No. 3, **World Heritage and Protected Areas**, 2008).

Table 6: The sizes of serial natural World Heritage properties

Name of World Heritage property	Country	Criteria	Total Area (ha)
Russian Federation	Volcanoes of Kamchatka	(vii)(viii)(ix)(x)	3,830,200
Indonesia	Tropical Rainforests of Sumatra	(vii)(ix)(x)	2,595,124
Russian Federation	Golden Mountains of Altai	(x)	1,611,457
Frankreich	Lagoons of New Caledonia: Reef Diversity and Associated Ecosystems	(vii)(ix)(x)	1,574,300
Australia	Greater Blue Mountains Area	(ix)(x)	1,032,649
Sweden	Laponian Area	(iii)(v)(vii)(viii)(ix)	940,000
China	Three Parallel Rivers of Yunnan Protected Areas	(vii)(viii)(ix)(x)	939,441
Mongolia/ Russian Federation	Uvs Nuur Basin	(ix)(x)	898,064
Australia	Wet Tropics of Queensland	(vii)(viii)(ix)(x)	894,420
Mexico	Islands and Protected Areas of the Gulf of California	(vii)(ix)(x)	736,812
Thailand	Dong Phrayayen-Khao Yai Forest Complex	(x)	615,500
South Africa	Cape Floral Region Protected Areas	(ix)(x)	553,000
Madagascar	Rainforests of the Atsinanana	(ix)(x)	479,661
Kazakhstan	Saryarka – Steppe and Lakes of Northern Kazakhstan	(ix)(x)	450,344
Yemen	Socotra Archipelago	(x)	410,460
Australia	Gondwana Rainforests of Australia	(viii)(ix)(x)	370,000
Brazil	Cerrado Protected Areas: Chapada dos Veadeiros and Emas National Parks	(ix)(x)	197,382
Finland/ Sweden	Kvarken Archipelago / High Coast	(viii)	194,400
Kenya	Lake Turkana National Parks	(viii)(x)	161,485
Norway	West Norwegian Fjords – Geirangerfjord and Nærøyfjord	(vii)(viii)	122,712
Brazil	Discovery Coast Atlantic Forest Reserves	(ix)(x)	111,930
Belize	Belize Barrier Reef Reserve System	(vii)(ix)(x)	96,300
New Zealand	Tongariro National Park	(vi)(vii)(viii)	79,596
New Zealand	New Zealand Sub-Antarctic Islands	(ix)(x)	76,458
India	Nanda Devi and Valley of Flowers National Parks	(vii)(x)	71,783
Hungary/ Slovakia	Caves of Aggtelek Karst and Slovak Karst	(viii)	56,563
China	South China Karst	(vii)(viii)	47,588
Brazil	Fernando de Noronha and Atol das Rocas Reserves (1)	(vii)(ix)(x)	42,270
Australia	Heard and McDonald Islands	(viii)(ix)	38,600
South Africa	Vredefort Dome	(viii)	30,000
Slovakia/Ukraine	Primeval Beech Forests of the Carpathians	(ix)	29,279
Mexico	Monarch Butterfly Biosphere Reserve	(vii)	13,552
Australia	Australian Fossil Mammal Sites (Riversleigh / Naracoorte (Murgon))	(viii)(ix)	10,300
Republic of Korea	Jeju Volcanic Island and Lava Tubes	(vii)(viii)	9,475
United Kingdom of Great Britain and Northern Ireland	Gough and Inaccessible Islands	(vii)(x)	7,900
United Kingdom of Great Britain and Northern Ireland	Dorset and East Devon Coast	(viii)	2,550

Question 9: What are the sizes of the individual component parts of serial natural World Heritage properties?

Answer: The size of the individual components of serial natural properties varies considerably. The smallest recorded components are 1 hectare in area (Australian Fossil Mammal Sites and Vredefort Dome), the largest component included in a serial property measures 1,375,350 ha (within the Tropical Rainforest Heritage of Sumatra). The variability in the sizes of component parts of serial natural World Heritage properties is shown in Figure 9 below. Each serial property is plotted with a line that shows the smallest and largest component parts, and a tick on the line indicates the average size of the component parts within that particular serial natural property.

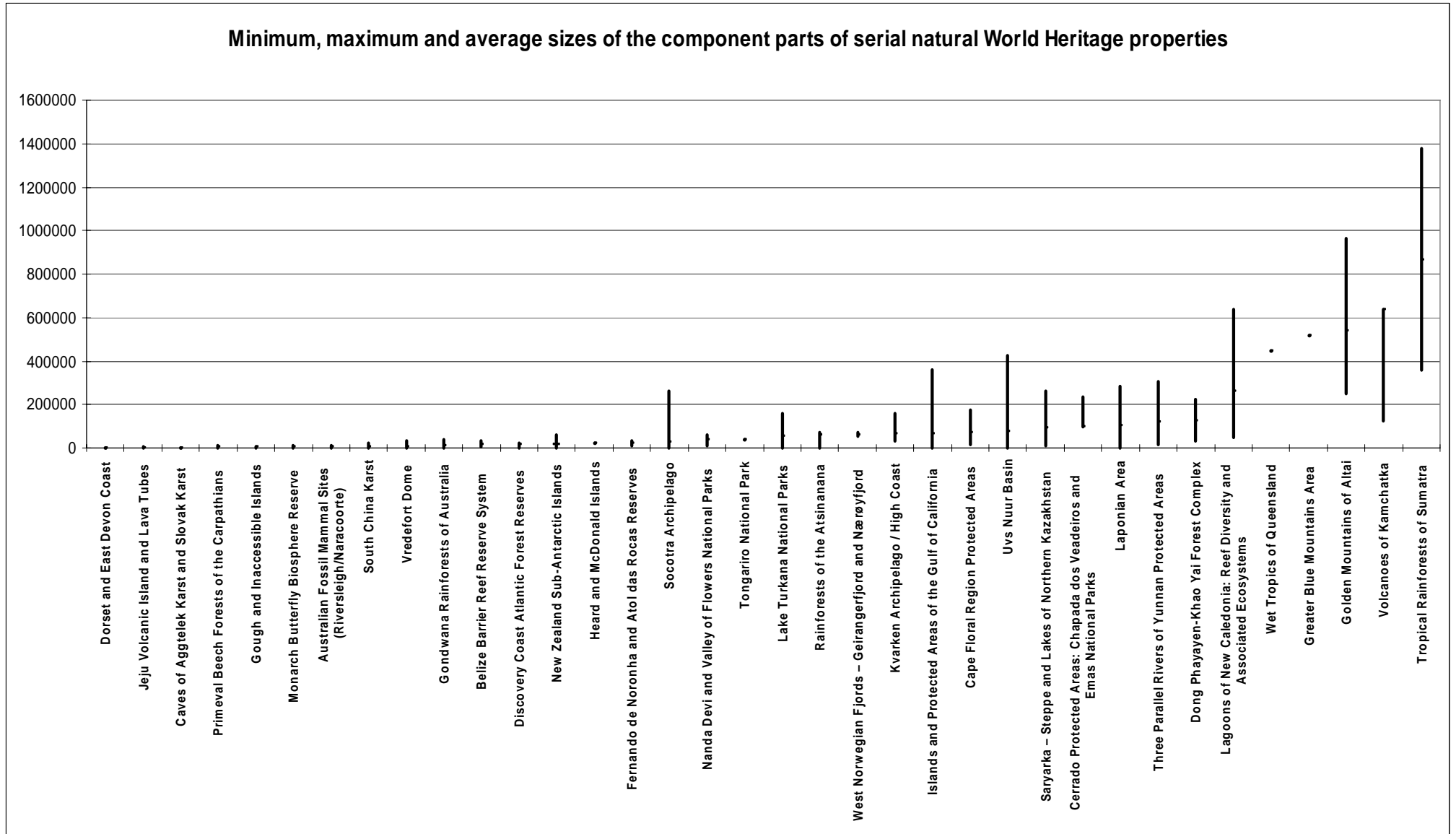


Figure 9: Minimum, maximum and average sizes of the components of serial natural World Heritage properties (in hectares).

Note: Some properties are only displayed with their average component part size due to lack of data.

Question 10: To what extent have serial natural World Heritage properties been nominated in phases?

Answer: Eight serial natural World Heritage properties have been inscribed in phases (mostly two phases, see Table 7). In three cases an extension of a single natural property has created a serial natural property (High Coast/Kvarken Archipelago (Sweden/Finland), Gough and Inaccessible Islands (United Kingdom), Nandi Devi and the Valley of Flowers (India)). In the case of the High Coast/Kvarken Archipelago an extension not only made the property serial, but also made it transnational (after inscription of the Swedish High coast in 2000, two Finnish parts were added as an extension in 2006).

Table 7: List of phased nominations among the serial natural World Heritage properties

Country	Name of property	Dates of inscriptions
Australia	Gondwana Rainforests of Australia	1986/ 1994
India	Nanda Devi and Valley of Flowers National Parks	1988/ 2005
Hungary/Slovakia	Caves of Aggtelek Karst and Slovak Karst	1995/ 2000
United Kingdom	Gough and Inaccessible Islands	1995/ 2004
Russian Federation	Volcanoes of Kamchatka	1996/ 2001
Kenya	Lake Turkana National Parks	1997/ 2001
Finland/Sweden	Kvarken Archipelago / High Coast	2000/ 2006
Mexico	Islands and Protected Areas of the Gulf of California	2005/ 2007

Question 11: Do the serial natural World Heritage properties have a single management plan?

Answer: 36 % of the serial natural World Heritage properties inscribed have a single (joint) management plan (or system) for the different components. The management models for the properties vary greatly and range from “no management plan” at all, to separate management plans and authorities for the components, to separate management plans which are linked by joint frameworks, concepts, guidelines etc. to joint management plans. IUCN in their evaluation of serial natural World Heritage properties always asks whether there is an overall management framework for all the components. The position is summarized in Figure 10 below and Annex 1 notes the management arrangement for each currently inscribed property.

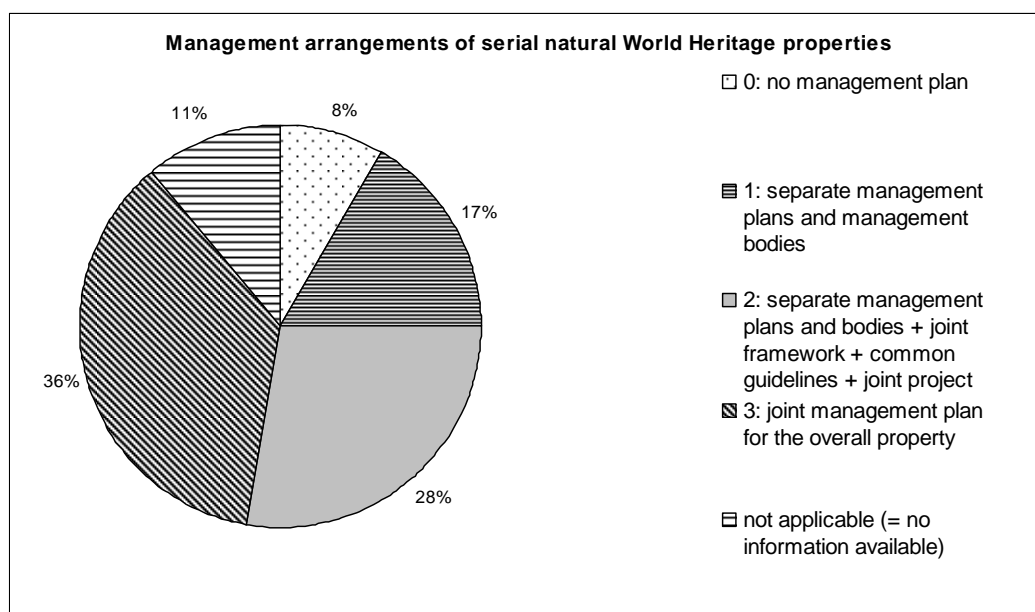


Figure 10: Management arrangements of serial natural World Heritage properties

Question 12: How many serial properties are included in the present Tentative lists?

Currently (at March 2009) the Tentative Lists of States Parties contain a total of 299 natural properties. Although the current format for the Tentative list does not provide for a indication of potential serial properties, an analysis of these suggest that at least 75 (26,4 %) of the natural properties included within Tentative Lists are serial in character, as shown below in Table 8. Sixteen properties have a potential transnational character. The actual numbers might be even higher as the information provided in the Tentative List database is not sufficient to determine whether the properties are potentially serial.

Table 8: Potential serial natural properties included in the Tentative Lists (preliminary analysis)

Country	Name of proposed property	Date of Tentative List	Serial	Trans-national	Extension?	Number of Component Parts	Criteria
Argentina	Sierra de las Quijadas National Park	(24/02/2005)	X			2	(vii) (viii) (ix)
Australia	Ningaloo Reef and Cape Range peninsula	(01/07/2008)	X				(vii) (viii) (ix) (x)
Azerbaijan	Hyrkan State Reservation	(30/09/1998)	X	X			(vii) (x)
Bahrain	Hawar Islands Reserve	(07/11/2001)	X				(vii) (ix)
Botswana	Gcwihaba	(21/07/1999)	X				(viii) (ix)
Burkina Faso	Parc National du W du Niger et aires protégées adjacentes	(30/01/2004)	X	X			(ix) (x)
Cape Verde	ova e Montantes de Ribeiras da Torre et do Paul	(07/05/2004)	X				
Central African Republic	La Réserve intégrale de la Mbaéré-Bondingué	(11/04/2006)	X			2	(ix) (x)
China	Danxia Landform of China	(07/04/2008)	X			5	(vii) (viii) (ix) (x)
Comoros	Ecosystèmes Marins de l'Archipel des Comores	(31/01/2007)	X			3	(ix) (x)
Costa Rica	Corcovado National Park and Isla del Caño Biological Reserve	(30/01/2003)	X			2	(vii) (x)
Côte d'Ivoire	Parc national des Iles Ehotilé	(17/03/2006)	X				
Croatia	Kornati National Park and Telašćica Nature Park	(29/01/2007)	X				(vii) (viii) (x)
Cuba	Reef System in the Cuban Caribbean	(28/02/2003)	X				(vii) (x)
Cyprus*	Khandria	(04/02/2002)	X				(viii) (ix)
Cyprus*	Malounta Bridge	(04/02/2002)	X				(viii) (ix)
Cyprus*	Kionia	(04/02/2002)	X				(viii) (ix)
Cyprus*	Troodos, Mt. Olympus	(04/02/2002)	X				(viii) (ix)
Cyprus*	Klirou Bridge	(04/02/2002)	X				(viii) (ix)
Czech Republic	Ceský ráj (Czech Paradise) Rock Cities	(19/01/2001)	X			11	
Egypt	Southern and Smaller Oases, the Western Desert Egypt	(12/06/2003)	X			5	(vii) (viii) (ix) (x)
Egypt	Desert Wadis	(12/06/2003)	X			3	(vii) (viii) (ix) (x)
Egypt	Great Desert Landscapes	(12/06/2003)	X			3	(vii) (viii) (ix)
Egypt	Bird Migration Routes	(12/06/2003)	X			7	(vii) (x)
Egypt	Mountain Chains	(12/06/2003)	X			5	(vii) (viii) (ix) (x)
Estonia	Baltic Klint	(06/01/2004)	X				
Finland	Saimaa-Pielinen Lake System	(28/01/2004)	X				(vii) (viii) (ix)
France	Bouches de Bonifacio	(01/02/2002)	X	X			(vii) (ix) (x)
France	Ensemble de grottes à concrétions du Sud de la France	(01/02/2002)	X			19	(vii) (viii) (ix)
Germany	Beech Primeval Forests of Germany	(01/02/2007)	X	X	X	5	(ix)
Germany	The German Wadden Sea	(20/09/1999)	X	X		?	(viii) (ix) (x)
Grenada	Grenadines Island Group	(05/08/2004)	X				(vii) (x)
Hungary	Caves of the Buda Thermal Karst System	(11/08/1993)	X			5+	(viii)
Iceland	Herðubreiðarlindir and Askja	(18/12/2001)	X			2	(vii) (viii) (ix) (x)
India	Western Ghats (sub cluster nomination)	(15/03/2006)	X			7	(vii) (ix) (x)

Serial Natural World Heritage Properties (2009)

Country	Name of proposed property	Date of Tentative List	Serial	Trans-national	Extension?	Number of Component Parts	Criteria
Iran (Islamic Republic of)	Hyrceanian Forest (Caspian Forest)	(09/08/2007)	X	X			(vii) (viii) (ix) (x)
Ireland	Northwest Mayo Boglands (28/09/1992) Ireland	(28/09/1992)	X				?
Israel	The Great Rift Valley - migratory routes - The Hula	(15/04/2004)	X				
Italy	Alps: a) Western Alps, b) Dolomites, c) Eastern Alps	(01/06/2006)	X				(vii) (viii) (ix) (x)
Italy	Archipelago of La Maddalena and Islands of Bocche di Bonifacio	(01/06/2006)	X	X			(vii) (ix) (x)
Italy	Sulcis Iglesiente	(01/06/2006)	X				
Italy	Ponds in the Bay of Oristano and the Sinis Peninsula island of Mal di Ventre	(01/06/2006)	X				(ix) (x)
Italy	Bradiseism in the Flegrea Area	(01/06/2006)	X				(vii) (viii) (x)
Japan	Ogasawara Islands	(30/01/2007)	X				(viii) (ix) (x)
Kazakhstan	Northern Tyan-Shan (Ile-Alatau State National Park)	(06/02/2002)	X	X			(x)
Kiribati	Phoenix Islands World Heritage Area	(07/03/2007)	X				(vii) (viii) (ix) (x)
Korea, Democratic People's Republic of	Caves in Kujang Area	(25/05/2000)	X				
Korea, Republic of	Sites of fossilized dinosaurs throughout the Southern seacoast	(25/01/2002)	X			5	(viii) (ix) (x)
Madagascar	Réserve Spéciale d'Anjanaharibe-Sud (extension des forêts l'Atsinanana)	(14/03/2008)	X		X	1	ix, x
Madagascar	Les forêts sèches de l'Andrefana	(14/03/2008)	X			7	(ix) (x)
Malaysia	Lanjak Entimau Wildlife Sanctuary (LEWS) and Batang Ai National Park (BANP)	(23/06/2004)	X			2	(viii) (ix) (x)
Malta	Coastal Cliffs	(19/05/1998)	X				
Mexico	Vallée des Cierges	(06/12/2004)	X			2	
Mexico	Réserve de la Biosphère Selva El Ocote	(06/12/2004)	X			2	
Mexico	Sierra de San Francisco et ses peintures rupestres* [proposed for natural criteria]	(06/12/2004)	X			2	(viii) (x)
Mexico	Aire de protection de la flore et de la faune Cuatrociénegas	(06/12/2004)	X			2	
Mexico	Réserve de la Biosphère El Pinacate et le Grand désert d'Altar	(06/12/2004)	X			2	
Netherlands	The Dutch Wadden Sea	(13/02/2007)	X	X			
New Zealand	Kahurangi National Park, Farewell Spit and Canaan karst system New Zealand	(30/03/2007)	X				(vii) (viii) (ix) (x)
New Zealand	Whakarua Moutere (North East Islands)	(30/03/2007)	X			9	(vii) (viii) (ix) (x)
New Zealand	Waters and seabed of Fiordland (Te Moana O Atawhenua)	(30/03/2007)	X				(vii) (viii) (ix) (x)
New Zealand	Kermadec Islands and Marine reserve	(30/03/2007)	X			2	(vii) (viii) (ix) (x)
Nicaragua	The Natural Reserve Miskitos Keys"	(19/06/1995)	X			2	
Niger	L'ensemble des forêts protégées de la région d'Agadez	(26/05/2006)	X				(vii) (x)
Niger	Mare d'Ounsolo ou N'Solo	(26/05/2006)	X			2	(ix)
Norway	Islands of Jan Mayen and Bouvet as parts of a serial transnational nomination of the Mid-Atlantic Ridge system	(21/06/2007)	X	X			
Philippines	Mount Apo and Mount Hamiguitan: Sanctuaries of Endemism in Mindanao	(10/09/2008)	X			2	
Portugal	ICNITOS de Dinossáurios	(31/01/2008)	X	X		3	(vii) (viii)

Serial Natural World Heritage Properties (2009)

Country	Name of proposed property	Date of Tentative List	Serial	Trans-national	Extension?	Number of Component Parts	Criteria
Russian Federation	Daurian Steppes (Daursky State Biosphere Reserve)	(07/02/2005)	X	X			
Russian Federation	The Teberdinskiy Reserve (extension of the "The Western Caucasus")	(18/01/1994)	X		X	2	(vii) (viii) (ix) (x)
Slovakia	Karst Valleys of Slovakia	(12/06/2002)	X				(viii) (ix) (x)
Slovakia	Natural Reserves of Tatras Mountain Slovakia	(12/06/2002)	X				(vii) (viii) (ix) (x)
Slovakia	Fungal Flora of Bukovské Hills	(12/06/2002)	X				(x)
South Africa	The Prince Edward Islands	(24/06/2004)	X				(vii) (viii) (ix) (x)
Spain	Dinosaur Ichnite Sites of the Iberian Peninsula	(20/12/2002)	X	X			
Togo	Parc national de la Kéran et la réserve de faune Oti-Mandouri	(08/01/2002)	X			2	(vii) (x)
Uzbekistan	Mountains of the Western Tien Shan (Transboundary nomination of Uzbekistan, Kyrgyzstan, Kazakhstan) "Chatkal State Biosphere Reserve"	(18/01/2008)	X	X			(viii) (x)
Uzbekistan	Gissar Mountains	(18/01/2008)	X			2	(vii) (viii) (x)
Uzbekistan	Zaamin Mountains	(18/01/2008)	X			2	(viii) (ix) (x)
TOTAL			79	14			

**Note: Although listed separately on the Tentative List, the five properties in Cyprus are individual component parts of one proposed serial property and have been counted as one. Properties included in tentative lists have not been evaluated for inclusion in the World Heritage List, and inclusion on a Tentative List does not indicate that a property necessarily has Outstanding Universal Value under the World Heritage Convention.*

Concluding Remarks

This preliminary analysis is a first attempt to clarify the situation of the serial natural World Heritage properties inscribed in the World Heritage list. This analysis implies a range of areas of follow up work that should be considered for further work, including:

- The relationship of serial World Heritage properties to other designations (RAMSAR, UNESCO Biosphere Reserves, European Diploma, etc.)
- A synthetic case history of IUCN evaluations and Committee decisions on serial nominations to identify key decisions and thresholds
- The identification of case studies of best practice for nomination, management, monitoring etc. of serial natural World Heritage properties.
- Extension of this analysis to consider cultural and natural properties.

IUCN and BfN welcome feedback on this analysis.

IUCN Programme on Protected Areas

BfN German Federal Agency for Nature Conservation (Division of International Nature Conservation)

March 2009

ANNEX 1: List of serial natural and mixed World Heritage properties in alphabetical order of the countries

No	Country	Region*	Name	Category**	trans-national	Criteria	Year of inscription	Extension	Size (ha) ***	No. of component parts	Size range of component parts	Average component size	Management Arrangement (Question10) ****
1	Australia	AP	Gondwana Rainforests of Australia	N		(viii)(ix)(x)	1986/1994	1994: cluster parts 17-41	370,000	41	min: 36 max:39,120	9024	3
2	Australia	AP	Wet Tropics of Queensland	N		(vii)(viii)(ix)(x)	1998		894,420	2	No min/max	447,210	3
3	Australia	AP	Heard and McDonald Islands	N		(viii)(ix)	1997		38,600	2	No min/max	19,300	n.a.
4	Australia	AP	Greater Blue Mountains Area	N		(ix)(x)	2000		1,032,649	2	No min/max	516,325	3
5	Australia	AP	Australian Fossil Mammal Sites (Riversleigh / Naracoorte)	N		(viii)(ix)	1994		10,300	2	min: 1 max: 10,000	3,433	2
6	Belize	LA/C	Belize Barrier Reef Reserve System	N		(vii)(ix)(x)	1996		96,300	7	min: 3,900 max: 30,800	13,757	3
7	Brazil	LA/C	Fernando de Noronha and Atol das Rocas Reserves	N		(vii)(ix)(x)	2001		42,270	2	min: 11,270 max: 32,000	21,135	2
8	Brazil	LA/C	Cerrado Protected Areas: Chapada dos Veadeiros and Emas National Parks	N		(ix)(x)	2001		197,382	2	min: 131,386 max: 235,970	98,691	2
9	Brazil	LA/C	Discovery Coast Atlantic Forest Reserves	N		(ix)(x)	1999		111,930	8	min:1,145 max: 24,000	13,991	1
10	China	AP	Three Parallel Rivers of Yunnan Protected Areas	N		(vii)(viii)(ix)(x)	2003		939,441	8	min: 17,426 max: 305,306	117,430	1
11	China	AP	South China Karst	N		(vii)(viii)	2007		47,588	7	min:1,246 max: 21,684	6,798	2
12	Finland/ Sweden	EU/NA	Kvarken Archipelago / High Coast	N	x	(viii)	2000/2006	2006: 2. and 3. part of cluster	194,400	3	min 34,400 max 160,000	64,800	2
13	France	EU/NA	Lagoons of New Caledonia: Reef Diversity and Associated Ecosystems	N		(vii)(ix)(x)	2008		1,574,300	6	min: 48,200 max: 635,700	262,383	3
14	Hungary/ Slovakia	EU/NA	Caves of Aggtelek Karst and Slovak Karst	N	x	(viii)	1995/2000	2000: cluster part 23	56,563	23	no min/max	2,459	1
15	India	AP	Nanda Devi and Valley of Flowers National Parks	N		(vii)(x)	1988/2005	2005: 2. part of cluster	71,783	2	min: 8,750 max: 62,460	35,892	n.a.
16	Indonesia	AP	Tropical Rainforests of Sumatra	N		(vii)(ix)(x)	2004		2,595,124	3	min: 356,800 max: 1,375,350	865,041	1
17	Kazakhstan	EU/NA	Saryarka – Steppe and Lakes of Northern Kazakhstan	N		(ix)(x)	2008		450,344	5	min: 12,947 max:258,963	90,069	3
18	Kenya	AF	Lake Turkana National Parks	N		(viii)(x)	1997/2001	2001: 3. part of cluster	161,485	3	min:500 max:157,085	53,828	0
19	Madagascar	AF	Rainforests of the Atsinanana	N		(ix)(x)	2007		479,661	8	min: 84 max: 69,898.5	59,958	1
20	Mexico	LA/C	Islands and Protected Areas of the Gulf of California	N		(vii)(ix)(x)	2005/2007	2007: cluster parts 10 and 11	736,812	11	min: 79 max: 358,000	66,983	3

Serial Natural World Heritage Properties (2009)

No	Country	Region*	Name	Cate-gory**	trans-national	Criteria	Year of inscription	Extension	Size (ha) ***	No. of component parts	Size range of component parts	Average component size	Management Arrangement (Question10) ****
21	Mexico	LA/C	Monarch Butterfly Biosphere Reserve	N		(vii)	2008		13,552	3	min: 588 max: 9,233	4,517	3
22	Mongolia/ Russian Federation	EU/NA/ AP	Uvs Nuur Basin	N	x	(ix)(x)	2003		898,064	12	min: 800 max:424,298	74,839	2
23	New Zealand	AP	Tongariro National Park	M		(vi)(vii)(viii)	1990/1993	1993: inscribed under cultural criteria	79,596	2		39,798	3
24	New Zealand	AP	New Zealand Sub-Antarctic Islands	N		(ix)(x)	1998		76,458	5	min: 135 max: 62,560	15,292	1
25	Norway	EU/NA	West Norwegian Fjords – Geirangerfjord and Nærøyfjord	N		(vii)(viii)	2005		122,712	2	min: 51,802 max: 70,910	61,356	2
26	Republic of Korea	AP	Jeju Volcanic Island and Lava Tubes	N		(vii)(viii)	2007		9,475	5	min: 23.8 max: 9,093.1	1,895	3
27	Russian Federation	EU/NA	Volcanoes of Kamchatka	N		(vii)(viii)(ix)(x)	1996/2001	2001: 6.part of cluster	3,830,200	6	min: 123,000 max:1,325,000	638,367	n.a.
28	Russian Federation	EU/NA	Golden Mountains of Altai	N		(x)	1998		1,611,457	3	min: 252,904 max: 965,753	537,152	0
29	Slovakia/Ukraine	EU/NA	Primeval Beech Forests of the Carpathians	N	x	(ix)	2007		29,279	10	min: 67.1 max:11,860	2,928	2
30	South Africa	AF	Vredefort Dome	N		(viii)	2005		30,000	4	min: 1 max: 30,108	7,500	2
31	South Afrika	AF	Cape Floral Region Protected Areas	N		(ix)(x)	2004		553,000	8	min:15,000 max: 174,000	69,125	2
32	Sweden	EU/NA	Laponian Area	M		(iii)(v)(vii)(viii)(ix)	1996		940,000	9	min: 2,000 max: 285,000	104,444	0
33	Thailand	AP	Dong Phrayayen-Khao Yai Forest Complex	N		(x)	2005		615,500	5	min: 31,300 max:223,600	123,100	n.a.
34	United Kingdom of Great Britain and Northern Ireland	EU/NA	Gough and Inaccessible Islands	N		(vii)(x)	1995/2004	2004: 2. part of cluster	7,900	2	min:1,400 max:6,500	3,950	3
35	United Kingdom of Great Britain and Northern Ireland	EU/NA	Dorset and East Devon Coast	N		(viii)	2001		2,550	8	no min/max	319	3
36	Yemen	AR	Socotra Archipelago	N		(x)	2008		410,460	15	min: 8 max: 260,008	27,364	3

* Key to abbreviations: AF: Africa; LA/C: Latin America and the Caribbean; AP: Asia and the Pacific; EU/NA: Europe and North America; AR: Arab States

** N=Natural. M=mixed

*** Size figures are for areas to be nominated, i.e. not including buffer zones.

**** At time of inscription

World Heritage Studies

- ⤴ *Outstanding Universal Value: Standards for Natural Heritage: A Compendium on Standards for Inscriptions of Natural Properties on the World Heritage List*, IUCN World Heritage Studies, Tim Badman, Bastian Bomhard, Annelie Fincke, Josephine Langley, Pedro Rosabal and David Sheppard, 2008.
- ⤴ *World Heritage Caves and Karst, A Thematic Study: Global Review of Karst World Heritage Properties: present situation, future prospects and management, requirements*, IUCN World Heritage Studies, Paul Williams, June 2008.
- ⤴ *World Heritage and Protected Areas: an initial analysis of the contribution of the World Heritage Convention to the global network of protected areas presented to the 32nd session of the World Heritage Committee, Québec City, Canada, in July 2008*, IUCN World Heritage Studies, Tim Badman and Bastian Bomhard, 2008.
- ⤴ *Natural World Heritage Nominations: A resource manual for practitioners*, IUCN World Heritage Studies, Tim Badman, Paul Dingwall and Bastian Bomhard, 2008.
- ⤴ *Management Planning for Natural World Heritage Properties: A resource manual for practitioners*, Interim version, IUCN World Heritage Studies, IUCN Programme on Protected Areas, 2008.
- ⤴ *Serial Natural World Heritage Properties: an initial analysis of the serial natural World Heritage Properties on the World Heritage List*, IUCN World Heritage Studies, Barbara Engels, Phillip Koch and Tim Badman, 2009.
- ⤴ *World Heritage in Danger: A compendium of key decisions on the conservation of natural World Heritage Properties via the list of World Heritage in Danger*, IUCN World Heritage Studies, Tim Badman, Bastian Bomhard, Annelie Fincke, Josephine Langley, Pedro Rosabal and David Sheppard, 2009
- ⤴ *World Heritage Volcanoes: a thematic study: a global review of volcanic World Heritage properties: present situation, future prospects and management requirements*, IUCN World Heritage Studies, Chris Wood, 2009.